Traffic Signing for Local Areas

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General Principles of Traffic Signing for Local Areas

One of the most important responsibilities of local street and highway departments is to provide the driving public with adequate, appropriate signs to permit safe travel over unfamiliar roads. Unfortunately, this responsibility is frequently neglected or, at best, under-emphasized. The most common excuse used to justify this neglect is inadequate funding, which is undoubtedly true. What is equally true, however, is that resurfacing roads and streets is more politically popular than re-signing them, even though resurfacing leads to increased speeds, which in turn can lead to increased accident experience on improperly or inadequately signed facilities.

This brief report is not intended to be a complete summary of all aspects of traffic signing procedures, but its purpose is to provide some basic information which can be a starting point for a local agency committed to improving its signing procedures.

Much of the information in this report has been obtained from the National Association of County Engineers (NACE) Action Guides and from the Indiana Manual on Uniform Traffic Control Devices for Streets and Highways.

Liability

Over the past several years, there has been a dramatic increase in the number of lawsuits filed against local governmental units for alleged negligence in the performance of their duties. There has also been a corresponding increase in the amount of damages awarded by the courts to the plaintiffs in those lawsuits in which negligence was found. These two facts have led to tremendous increases in the costs of liability insurance for local governments, or in some cases, have made it impossible for the local government to obtain insurance at any cost.

Some of the steps which can be taken to reduce liability exposure will be presented later in this section, but first it is necessary to provide some background information on governmental functions which may or may not be immune from liability.

Governments have two distinct functions: a governmental function and a nongovernmental (proprietary) function. As long as a government operated in a purely governmental capacity, it would retain its governmental immunity. But when a government operated in a proprietary capacity, like a business organization, it would face the same liability exposure that a private business would. The courts' criteria for whether an activity was governmental or proprietary was the amount of discretion the activity involved. An action was governmental, and therefore immune, if it was discretionary. Otherwise, it was proprietary and not immune. The court looked at the governmental function and determined that some of the functions should be considered discretionary acts and some should be considered nondiscretionary acts. If a government act was determined to be discretionary, the government would continue to be immune. However, if the act was determined to be nondiscretionary, the government would now be liable.

For a government act to be discretionary in the eyes of the court, it must meet criteria established by the courts: (1) an authorized individual or agency must have been given the power and duty to make a decision; (2) the decision must be made from a set of valid alternatives; and (3) the individual or agency must exercise independent judgment in making the selection. It is further required that the individual or agency not abrogate its duty by not making the decision.

As long as all these criteria are met, the individual or agency is performing a discretionary act, and as long as discretionary power is not abused, the individual or agency will retain its governmental immunity. Many legal

jurisdictions have attempted to simplify the definition of a discretionary act to a planning function and to simplify the definition of a nondiscretionary act to an operational function. Examples of planning functions are design, allocation of resources, and allocation of labor. Examples of operational functions are construction and maintenance.

In a civil suit, the plaintiff must convince the jury that the defendant was in some way more wrong than the plaintiff (this is called "a preponderance of the evidence") and caused injury or property loss to the plaintiff. In a negligence suit, the plaintiff's attorney must prove, by a preponderance of the evidence, five elements.

1. **Duty** - The defendant must owe a legal duty to the plaintiff. This is the easiest to prove, because most laws or statutes that establish the authority of an agency to supervise the road system also require that that road system be operated in a reasonably safe condition. Under these circumstances, the duty that is owed the user of the roadway is established by statute.

2. **Breach of Duty** - It must be proved that the defendant in one way or another breached the duty that is owed the plaintiff. This breach can be an overt breach, for example, making an inadequate repair, or an omission, for example, failing to make a repair or a timely repair.

3. **Proximate Cause** - The breach of the duty that is owed the plaintiff by the defendant must be the proximate cause of the damages to the plaintiff (the injured party). Proximate cause is generally more difficult for the attorney to establish, because it is the result of a natural sequence of events leading to the loss faced by the injured party. The plaintiff's attorney tries hard to trace the series of events leading back to the government agency, because on the theory of government's so-called "deep pocket," the government is more likely to be able to pay damages than another defendant would be. To establish proximate cause, the plaintiff's attorney will distinguish between actual cause and legal cause. For example, when two vehicles enter an intersection where the traffic signal is not functioning properly, an accident occurs. The actual cause is the carelessness of the two drivers. But, if the attorney is able to establish that the legal underlying cause (the proximate cause) was the failure of a government agency to

properly or promptly maintain the defective signal, then the government will be financially responsible to the injured parties.

4. **Absence of Contributory Negligence** - The attorney tries to prove that the injured party did not contribute to the injuries or did so very little. This is because of the legal requirements of the various states. Some states are known as contributory negligence states. In those states if an injured party has contributed to the injury in any manner, he or she is precluded from recovering against the defendant. However, most state jurisdictions are now comparative negligence jurisdictions. In a comparative negligence jurisdiction, the juries establish the degree of responsibility of both the plaintiff and the defendant. After that degree of responsibility is established, the jury decides on the amount awarded to the injured party, and the judge will then reduce that amount by the percentage of plaintiff negligence. For example, if the plaintiff is 20 percent negligent and the jury awards $100,000, the judge will reduce the award to the plaintiff by 20 percent and the actual award will be only $80,000. Regardless of the jurisdiction involved, then, the attorney for the plaintiff will seek to prove that the plaintiff was either in no way negligent or was contributory negligent to a minor extent.

5. **Damages** - The attorney must prove that there are damages. Damages include personal injury, repairs to automobiles, medical expenses, lost income, and pain and suffering. The dollar value for the damages themselves are developed as part of the litigation of the lawsuit and, in fact, may take as much time to develop as the liability portion of the lawsuit.

In dealing with tort liability, the courts have established some guidelines that are helpful in determining responsibility.

- The government agency is not an insurer of the roads or a guarantor of absolute safety.

- Motorists have the right to presume, and act upon the presumption, that the highway is safe for usual and ordinary traffic in the daylight and at night. They are not required to anticipate extraordinary dangers, impediments, or obstructions to which

their attention has not been directed or of which they have not been warned.

- Public highways must be maintained in a way that is reasonably safe for travel, within accepted and understood criteria.

- In maintaining the highway in a manner that is reasonably safe for travel, there is wide latitude in the exercise of administrative discretion, but continual supervision and inspection are of the utmost importance.

- The courts do recognize various factors in establishing what is reasonably safe and include the terrain that is encountered, weather conditions, and materials used in construction.

- Recovery of damages is based upon more than the mere presence of a hazardous condition; such presence must be due to negligence.

- The local agency is deemed negligent if it knows (or has been notified) of a dangerous condition and fails to safeguard against it.

As was previously pointed out, every governmental agency performs two basic types of functions, and these functions have different implications with regard to the liability that the agency faces. As long as the discretion is not abused, discretionary functions allow the government to remain immune from liability suits. A review of court cases indicates that the terms "discretionary," "governmental," and "planning" function are used interchangeably. In this category are found such functions as design, allocation of resources (dollars), and allocation of labor. While immunity for the discretionary functions varies widely among the states, the jurisdictions that have enacted a tort claims act generally provide immunity for discretionary functions as long as there is no abuse. To avoid the charge of abuse of discretionary power, engineers are cautioned to ensure that (1) they have the authority to make a decision, (2) the decision is made from valid alternatives, and (3) the decision is made by an exercise of independent judgment. If engineers ensure these things, whatever immunities exist within the state jurisdiction will continue to be provided to the government agency involved.

The other function performed by every governmental agency is the nondiscretionary or operational function, sometimes known as a ministerial function. Functions in this category are more likely to involve clearly defined tasks

with a minimum of leeway for personal judgment. They are governed by standard operating procedures and do not require any evaluation or review of alternatives before being performed. Examples are construction tasks and maintenance tasks, which may include such clearly defined duties as driving a vehicle. Any deviation from the reasonable standard in the performance of an operational function can expose the agency to liability. However, courts have found the use of priority lists and the selection of materials to be discretionary, and therefore, immune.

Planning and operation are not the only areas that engineers should be concerned with in determining their agency's immunity or nonimmunity under the discretion/nondiscretionary umbrella. Engineers must also take into account environmental impact factors such as traffic noise, pollution, and drainage. Weather conditions, such as those causing skidding, and snow and ice removal should be taken into account, as well as surface defects and traffic control device problems. These all affect the liability of the public agency.

In past cases, the courts' decisions have been fairly uniform in holding that the design of a highway is discretionary because it involves high-level planning and evaluation of policies. These decisions, moreover, are supported by decisions not concerned directly with a discretionary function exemption that hold that design functions are quasi-legislative in nature and must be protected from "second-guessing" by the courts, which are inexpert at making such decisions. Design immunity statutes represent further efforts by legislatures to immunize governmental bodies and employees from liability arising out of negligence or errors in a plan or design when the plan or design was duly approved under current standards of reasonable safety.

The courts have noted the following exceptions to design immunity:

1. Where the approval of a plan or design or its change was arbitrary, unreasonable, or made without adequate consideration.

2. Where a plan or design was prepared without adequate care.

3. Where it contained an inherent, manifestly dangerous defect or was defective from the very beginning of actual use.

4. Where changed conditions demonstrate the need for additional or remedial action.

Negligent construction is not likely to be immune from liability by reason of the discretionary function exemption, particularly where the construction deviates from the approved plan or design, or there is negligence in implementing the plan or design, such as introducing a feature not considered in the design phase. Construction negligence might be immune when it resulted from following a plan or design that specified in elaborate detail how a feature was to be built.

Negligent maintenance is least likely to be immune from liability. Courts are prone to consider this phase of highway maintenance a routine housekeeping function necessary in the performance of normal day-to-day government administration. Maintenance of highways is exercised at the operational level, and although discretion extent is involved, the discretionary decisions are not policy-oriented.[1]

To reduce risk potential, construction and maintenance tasks should be performed in accordance with clearly established guidelines. Another key to the development of a proper construction or maintenance program is the establishment of priority lists to help the government agency properly allocate what have become, in today's economy, limited resources. Most engineers who are not familiar with the law believe that if they prepare a priority list, which may be a collection of high accident locations on streets where the road has deteriorated, they admit knowledge of such defects and expose the agency to tort liability. But the courts recognize the need for priority lists. In fact, the courts encourage the establishment of priority lists by holding that the establishment of a priority list in itself is not an admission of guilt.

Establishing a priority list does not totally protect the agency from suits alleging that the agency had knowledge of the defect. What is required of the agency is more than merely establishing the list. As was discussed earlier, the agency must have clear, valid alternatives in order to retain discretionary immunity. What are these alternatives?

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[1]Larry W. Thomas, "Liability of State Highway Departments for Design, Construction and Maintenance Defects," NCHRP Research Results Digest 80, Transportation Research Board (September 1975).

The list is used to allocate resources, but more than the allocation of dollars must be taken into account. The number of accidents at an intersection is also a criterion for position on a priority list. But again more than just the number of accidents must be taken int o account. How much vehicular volume is involved? How isolated is the location? Are there other reasons to give this location a higher priority than others (for example, high generators, adjacent housing projects for the elderly, schools, nearby hospitals)?

Further, the priority list is a dynamic thing subject to constant review and updating. The courts are concerned about the "ostrich-like syndrome" of many agencies, who stick their heads in the sand and hope the problems will go away. The courts will not tolerate that. As new locales are added to a priority list, locales should be weighed against each other so that a new addition to the list is not automatically placed at the end. As long as this procedure is followed, the courts will not term the list an abuse of discretion, but will allow it to stand as a tool for the agency.

However, this is true only if the agency has a program to eliminate the defects noted on the list. Indeed, the courts say that a list without a program to eliminate the hazards listed is in itself an abuse of discretionary powers and the government agency may face a tort liability suit.

Many jurisdictions have adopted the standards in the Manual On Uniform Traffic Control Devices (MUTCD) as their basis for designing and installing traffic controls. While the MUTCD is recognized as a generally accepted standard, adherence to it does not eliminate the risk of liability. If, as the result of peculiar conditions, safety requires something more than the recommendations of the Manual, then the governmental authority risks liability if it provides only what the Manual stipulates.

In general, the decision to install a traffic control device is a discretionary decision. As long as there has been no abuse of discretion, immunity is retained. To avoid the abuse of discretion, the government agency, in determining whether or not a traffic control device should be installed, must make the proper engineering evaluation within the criteria and guidelines currently in use. Nevertheless, the engineer should be warned that while the installation of a traffic control device is discretionary, once the device has been installed, the maintenance of that device is no longer discretionary. Failure to maintain a traffic control device within an accepted standard of care will expose the agency to liability.

In addition to their general duty to maintain roads and streets in reasonably safe condition, highway agencies have a specific duty when a defect in a piece of public property is detected. This duty is to remedy or warn. Remedy means repairing the defect.

Just as in remedying defects, the courts require a "reasonable" response time. Unfortunately, there is no clear standard for a reasonable response time. Invariably, the courts do not stipulate the reasonable time for a particular repair, but instead merely state whether the response time in a particular situation was reasonable. From these cases emerges a set of guidelines on how to argue in court that the action taken was both timely and reasonable.

Not every particular failure requires an immediate response. The courts afford engineers a certain amount of discretion in determining response time, so long as the engineers follow the rules of discretionary activity discussed earlier. They must make a determination based on a valid set of alternatives and exercise independent judgment in arriving at that decision. For example, a traffic signal with its green indications burned out does not require an immediate response because motorists entering an intersection where a green lamp is burned out are still entering the intersection safely. Burned out red indications are more dangerous because drivers may enter the intersection when it is unsafe. So a burned out red indication should be responded to earlier than a burned out green one. Priorities can be assigned to sign repairs also. The sign with highest repair priority should be a STOP sign.

In addition, certain other factors should be taken into account. How isolated is the signal? Is the defect at a location with a high volume of traffic or a low volume? If an agency follows sensible, fixed guidelines to establish a proper response time, it can defend the reasonableness of its response time in court.

In other words, it is permissible to set priorities and respond to some defect only after more urgent ones have been properly dealt with. However, any priority list utilized must be a dynamic thing, periodically reviewed and updated. The factors that help assign the priority must be regularly reviewed to ensure their weight in the decision is a proper one.

Courts also recognize that not every repair can be completed quickly. Some defects may inherently require a long time to repair. However, courts do not tolerate failure to take some sort of positive action. Agencies unable to make a complete repair within a reasonable period of time must warn the using public.

Although engineers certainly recognize that the public must be warned of danger, court cases repeatedly reveal highway agencies cutting corners, with liability judgments against them as a result. Many times inappropriate signs are used. In one jurisdiction, a bridge had been removed and the sign that was placed to warn the motorist said MEN WORKING. Under these circumstances, the driver rightly expected to see road work going on, continued down the road, and drove into a river. The county argued that the MEN WORKING sign, along with an advertisement placed in a newspaper, constituted sufficient warning to the public of a danger that could not be remedied quickly. They lost! Another case showed improper use of the BUMP sign. A jurisdiction used a BUMP sign to indicate a bump in the road that actually caused water to pond up after a rain; the result was that vehicles hydroplaned. More appropriate signs would have been not BUMP but SLIPPERY WHEN WET. Engineers should choose signing that is commensurate with the danger.

Many jurisdictions feel that a warning sign eliminates the need for a repair. The courts, however, consistently insist that the warning sign, which must be commensurate with the danger, is only a temporary device for a reasonable period of time until the proper repairs can be accomplished.

Actual notice of defect means that the agency concerned with the proper operation of that system has received direct notice of the existence of a defect. This can occur in many ways. It can come directly from the public. It can come from observations by an agency's own employees. Regardless of the source, actual notice of a defect gives the highway agency the duty to make a timely repair or warn the public.

But there is also constructive notice, which means that the agency did not receive actual notice of a defect but the court has determined that the agency should have had the notice and, therefore, had the duty to remedy or warn. If the agency did not make the necessary repair or give the motorist the necessary warning, it has failed in its duty and may be held liable for injury or property loss.

Constructive notice costs agencies more money than any other factor. Agencies constantly use the excuse, "We did not receive notice of the defect and, therefore, we could not

have made the repair." While it may sound like a good defense, many times the court rules that it is invalid. From the evidence presented, the court concluded that the agency should have been aware of the defect and done something about it.

How does constructive notice arise? Most commonly, some organizations that the courts consider an agent of the public agency has received notice of the defect. Most often, this agent is the police department, which frequently responds to the reported danger but does not look upon that reported danger in the same manner that an engineer would look at it. The police may conclude that further steps need not be taken. But because the police were notified and the public has been trained for many years to report dangers to the police, the court will decide that although the police department never reported the defect to the maintaining agency, the maintaining agency has received constructive notice of it. Therefore, it falls upon the engineer to establish proper lines of communication with the police department (or any other department the court will consider an agent of the engineer) so that all reports of defects are reported to the engineer in a timely fashion. Similarly, constructive notice can arise when a traffic accident that destroys a traffic control device has been investigated by the police. The courts expect the repairing agency to communicate with the police about such damage.

Further, the courts have established constructive notice of a defect when employees of an agency have been in a position to observe the defect and report it to the appropriate supervisors, even if they did not report it. Many times, employees drive with blinders on and see nothing that is around them. The courts will not accept that. However, the courts will make allowances for some employees. The ordinary clerk or secretary will not be considered agents of the public agency. What the court is looking for are those persons who work in the maintenance areas of the agency: the engineers, the assistant engineers, the technicians, the maintenance men, or the foremen. All of those who work with defects are expected to notice them and report them so that repairs can be made. Failure to do that will not prevent the court from establishing constructive notice to the public agency.

Constructive notice will also be established if an agency allows a defect to exist for an unreasonable period of time. The courts will determine that the agency should have discovered the defect and, consequently, had constructive notice of its existence and should have made the necessary repairs or warned the public.

Finally, the courts have consistently felt that if an agency creates the defect itself by improper installation, improper maintenance, or similar error that the agency has notice, either actual or constructive. Whether an actual repair or the installation of a sign, a highway agency must ensure that the work it performs is appropriate and proper. The agency needs not receive notice of a defect that the agency itself created before it has a duty to remedy the defect or warn the public. The courts hold that the duty to remedy the defect or warn the public arises immediately with the defect that the agency itself creates.

The use of around-the-clock maintenance crews may not be economically feasible for smaller jurisdictions. If that is the case, a telephone number should be provided to the local police department, so that a supervisor or authority could be informed of major concerns or problems and can then determine whether or not to make the necessary repairs at that time. A duty roster should be established so that if a problem develops that does require immediate repair, the engineer can marshal forces within a reasonable period of time. If the agency operates with around-the-clock crews, or does have provisions to marshal forces whenever a repair is needed, spare parts should be available to those crews no matter what hours they are required to work. Failure to have and use proper material and equipment is a factor in determining an agency's negligence and failure to effect a timely repair in a reasonable manner.

In addition, since not every repair can be accomplished in a timely manner, means must be available to the repair crews (and possibly the local police department) to adequately warn the public of the defect. Again, this warning must be commensurate with the danger. A good precaution would be to provide the local police department with various portable signs (for example, STOP, YIELD, ROAD CLOSED, BRIDGE OUT) and ask them to place these portable signs at the site until a work crew can be assembled. If the police are asked to do this, they should first be told which sign to use and how to place it properly to provide the maximum warning to the public.

Fourteen Practical Tips for Reducing Agency Tort Liability

1. There should be a clear definition and understanding of the duties, responsibilities, and authority of the agency, its sub-units, and each individual in the organization.

2. Officials and employees should clearly understand and subsequently perform their general duties in a satisfactory manner.

3. Decisions concerning professional plans or programs, such as the physical and geometric design of traffic facilities and the application of traffic control devices and regulations, should either be made by competent professionals or be based on the advice of such persons.

4. Public highway agencies should establish and maintain adequate record systems to provide current facts about existing conditions. These systems include:

   - Traffic accident records and procedures for identifying high-accident locations, and

   - Inventory procedures which will provide reasonably current information about the physical features and conditions of existing transportation facilities (i.e. photo logging and condition ratings) and traffic control devices (location, model and/or type and size, date installed or repaired, condition, function, reliability, and operational criteria).

5. A system of regular inspection should be established and maintained on a continuing basis. These inspections should cover the physical conditions of facilities and traffic control devices. Traffic signals should be checked at a maximum of six-month intervals. Traffic signs should be inspected at least twice annually under both day and night conditions, especially in inclement weather. Traffic markings should be checked as needed but special attention should be paid in the late winter and early spring. Temporary traffic control devices (such as those placed in construction or maintenance areas) should be checked on a daily basis, including workdays, weekends, and holidays. More frequent inspections should be made in major work areas. A chain of command should be established for the inspection process so that changing conditions can be anticipated, present and potential defects can be reported, and prompt action can be taken on those reports. An extremely helpful type of inspection is periodic trips made by the traffic engineer and traffic enforcement counterpart.

Another source of inspection capability is the development of a sense of awareness and responsibility on the part of all agency employees, including non-technical staff, so that they will be constantly on the lookout for vandalized or malfunctioning traffic control devices or other hazardous conditions.

6. An established procedure for the handling of complaints and reports should be developed and maintained with one person or one office being designated to receive and record all such reports and take appropriate action. Effective handling of complaints has legal as well as public relations benefits.

7. Complete and current maintenance records can provide information about type and character of repair or replacement activity including what trouble was found, what repairs were made, and what materials were used.

8. All designs or facilities or traffic control devices should be in accordance with currently adopted policies, guidelines, standards, and manual specifications. Geometric designs should be predicated on criteria which exceeds minimum standards. Field conditions should be correlated with traffic controls (i.e. having a 55 mph speed limit on a road which has stopping sight distance for a maximum of 35 mph is unsafe and irresponsible).

9. Standards of performance should be adopted in the areas of design, construction, operations and maintenance.

10. Rational procedures for determining improvement priorities and programming should be established and followed. Normally this will include a consideration of the cost effectiveness of various alternatives.

11. There should be design and operational reviews both before and after any facility or traffic control change is made. Both the basic design and traffic control elements should be checked in the field. Reviewers should be alert for changing conditions such as increased traffic movements, changes in vehicle type, etc. There should be inspections of active and completed projects.

12. All agency employees should be impressed with the importance of reasonable care in the fulfillment of their individual duties as well as the overall group mission.

13. Beware of false economy. The foolish cutting of necessary expenditures in order to appear fiscally responsible to the taxpayer inevitably leads to careless and negligent work.

14. Provide liability insurance against claims.

Liability exposure is a fact of life for all governmental agencies. A recent Indiana Supreme Court decision appears, on the surface at least, to have changed the rules somewhat. The case involved accidents at unmarked curves, and the Court held that the governmental agencies involved should have made a decision whether or not to sign those curves. In other words, the Court was saying that it (the Court) would not rule on whether or not signs were needed, but that the local agencies should have evaluated the locations and determined whether or not signs should be used. The long-range effects of this decision can only be guessed at this point in time. The implications are frightening.

Traffic Signs

Section 9-4-2-1 of the Indiana Code states "The Indiana Manual on Uniform Traffic Control Devices for Streets and Highways shall be adhered to by all governmental agencies within the state responsible for the signing, marking and erection of all traffic control devices on all streets and highways within the state."

The Indiana Manual (MUTCD) is the law! Any deviation from the standards set forth in the MUTCD can result in liability to the agency in case of an accident. No local agency can afford to ignore or disregard the provisions contained in the MUTCD. If your agency does not have a copy of the MUTCD, it may be obtained from:

Indiana Department of Highways
Room 1313
State Office Building
100 North Senate Avenue
Indianapolis, IN 46204

The cost is $20.00 and may be paid by check, money order, or purchase order.

Five basic considerations are covered in the MUTCD concerning traffic control devices. They are: design, placement, operation, maintenance, and uniformity.

DESIGN of the device is intended to assure that such features as size, contrast, colors, shape, composition, and lighting or reflectorizations are combined to draw attention to the device; that shape, size, colors, and simplicity of message combine to produce a clear meaning; that legibility and size combine with placement to permit adequate time for response; and that uniformity, reasonableness of the regulation, size and legibility combine to command respect. In the design of a device, minor modifications of the specified design elements may be necessary under certain conditions, provided that the essential appearance characteristics are met.

PLACEMENT of the device is intended to assure that it is within the cone of vision of the user so that it will command attention; that it is positioned with respect to the point, object, or situation to which it applies to aid in conveying the proper meaning; and that its location, combined with suitable legibility, is such that a driver traveling at normal speed has adequate time to make the proper response.

OPERATION or application is intended to assure that appropriate devices and related equipment be installed to meet the traffic requirements at a given location. Furthermore, the device must be operated and placed in a uniform and consistent manner to assure, to the extent possible, that the motorist can be expected to properly respond to the device, based on his previous exposure to similar traffic control situations.

MAINTENANCE of devices includes the various aspects to assure that legibility and visibility is acceptable for existing devices and that any device that is unnecessary or no longer needed may be removed. It is good maintenance practice to keep devices in as clean and as good a working condition as economically feasible. In addition to physical maintenance, the functional maintenance of the traffic control device should help assure proper operation.

UNIFORMITY of traffic control devices simplifies the task of the road user because it aids in recognition and understanding. It aids road users, police officers, and traffic courts by giving everyone the same interpretation. It aids public highway and traffic officials through economy in manufacturing, installation, maintenance, and administration.

The basic consideration for the utilization of traffic control devices, i.e. design, placement, operation, maintenance, and uniformity, is not intended to include the overuse or misuse of said device or to its particular needs as determined by field inspection and engineering judgment. The overuse of any traffic device tends to make the device itself ineffective since the public soon learns to envision the device as commonplace.

There are three functional sign classifications: regulatory, warning, and guide signs.

Regulatory signs give notice of traffic laws or regulation.

Warning signs call attention to conditions on, or adjacent to, a highway or street that are potentially hazardous to traffic operations.

Guide signs show route designations, destinations, directions, distances, services, points of interest, and other geographical or cultural information.

Regulatory Signs

Regulatory signs are intended to inform highway users of traffic laws or regulations and indicate the applicability of legal requirements that would not otherwise be apparent. These signs shall be erected wherever needed to fulfill this purpose, but unnecessary mandates and excessive use of these signs should be avoided. Certain laws of this State specify that certain regulations are enforceable only when made known by official signs.

Some regulatory signs are related to operational controls but do not impose any obligations or prohibitions. For example, signs giving advance notice of, or marking the end of, a restricted zone are included in the regulatory group.

Regulatory signs normally are erected at those locations where regulations apply. The sign message shall clearly indicate the requirements imposed by the regulation and shall be easily visible and legible to the motorist concerned.

Regulatory signs are classified in the following groups:

1. Right-of-way series:
   (a) STOP sign
   (b) YIELD sign

2. Speed series

3. Movement series:
   (a) Turning
   (b) Alignment
   (c) Exclusion
   (d) One Way

4. Parking series

5. Pedestrian series

6. Miscellaneous series

Regulatory signs are normally rectangular, with the longer dimension vertical, and have black legend on a white background, except for those signs whose standards specify otherwise.

All regulatory signs shall be reflectorized or illuminated to show the same shape and color both by day and night, unless excepted in the standards covering a particular sign or group of signs.

Warning Signs

Warning Signs are generally considered to aid in alerting and expediting traffic. The use of warning signs should be kept to a minimum. Too frequent use of them, or their unnecessary use to warn of conditions which are apparent, tends to breed disrespect for all signs. Improved highway design generally reduces the need for warning signs.

Even on the most modern roadways, however, there will be some conditions to which the motor-vehicle driver must be specifically alerted by means of warning signs. These conditions are, in varying degrees, common to all highways and existing standards for warning signs are generally applicable to expressways.

Typical locations and conditions which may be considered for the use of warning signs are:

1. Substantial changes in horizontal alignment,
2. Special intersections,
3. Advance warning of certain control devices,
4. Severe grades, dips and bumps,
5. Substantial changes in pavement widths,
6. Points of limited clearance,
7. Changes in roadway surface conditions,
8. School zones and crossings,
9. Railroad crossings,
10. Major entrances and crossings, and
11. Locations where advisory speeds may be justified.

Engineering judgment, based on field conditions, should be the controlling factor in determining the need, use, location, type, etc. of any warning sign.

Warning signs should be modified or removed, if conditions at a location change to the extent that the sign message is incorrect or that the sign is no longer needed.

Generally, all warning signs shall be diamond-shaped (square with one diagonal vertical) with black legend and border on a yellow background.

All warning signs having significance during the hours of darkness shall have a fully reflectorized background or be illuminated.

Guide Signs

Guide signs are essential to guide vehicle operators along streets and highways, to inform them of intersecting routes, to direct them to cities, towns, or other important destinations, to identify nearby rivers and streams, parks, forests, and historical sites, and generally to give such information as will help them along their way in the most simple, direct manner possible.

The MUTCD specifies the size, shape, color, legend, location, and placement for all types of signs. The use of the MUTCD is not, however, a substitute for good judgment in the use of signs for traffic control. Decisions on the use of signs should be made in accordance with the MUTCD and judgment, and all decisions should be documented.